

What is claimed is:

1. A method of forming a triangular nanoframe comprising etching a nanoprism with a salt to form a nanotriangle.
2. The method of Claim 1, wherein the nanoprism is a silver nanoprism.
- 5 3. The method of Claim 1, wherein the salt is a metal salt.
4. The method of Claim 1, wherein the nanoprism is a silver nanoprism, the salt is a metal salt and the ratio of the metal to the silver is between about 1:2 to about 1:10.
5. The method of Claim 4, wherein the HAuCl_4 has a concentration of about 5mM.
- 10 6. The method of Claim 1, wherein the thickness of the nanoprism is less than about 100nm.
7. The method of Claim 1, wherein the nanoprism is in a suspension of nanoprisms in water.
8. The method of Claim 6, wherein the suspension of nanoprisms has a concentration of between about 1M and about 30M.
- 15 9. The method of Claim 6, wherein the step of etching comprises the dropwise addition of a metal salt solution to the suspension of nanoprisms.
10. The method of Claim 8, wherein the salt solution is HAuCl_4 .
11. The method of Claim 1, comprising the additional step of contacting the nanoframe with a reducing agent in the presence of the salt.
- 20 12. The method of Claim 10, wherein the walls of the nanoframe are thickened by the contacting step.
13. The method of Claim 11, wherein the walls are thickened to form a pore in the nanoframe having diameter up to about 35nm.

14. The method of Claim 12, wherein the pore in the nanoframe has diameter between about 4nm and about 14nm.
15. The method of Claim 12, wherein the pore in the nanoframe has diameter between about 4nm and about 7nm.
- 5 16. The method of Claim 11, wherein the thickness of the nanoframe following the contacting step is between about 10nm and about 15nm.
17. The method of Claim 15, wherein the thickness of the nanoframe following the contacting step is about 12nm.
18. The method of Claim 10, wherein the reducing agent is ascorbic acid.
- 10 19. The method of Claim 10, wherein the contacting step is repeated at least twice.
20. The method of Claim 10, wherein the contacting step is repeated three times.
21. The method of Claim 10, wherein nanoprisms are formed from the nanoframes.
22. The method of Claim 20, wherein the nanoprisms formed have truncated corners.

23. A triangular nanoframe having an edge length of less than about 200nm and a thickness of less than about 100nm and a pore through the center of the nanoframe.
24. The triangular nanoframe of Claim 23, wherein the edge length is between about 5 70nm and about 80nm.
25. The triangular nanoframe of Claim 23, wherein the thickness is between about 5nm and about 15nm.
26. The triangular nanoframe of Claim 23, wherein the nanoprism is a metal nanoprism.
- 10 27. The triangular nanoframe of Claim 23, wherein the metal is silver.
28. The triangular nanoframe of Claim 23, wherein the pore size is between about 5nm and about 35m.
29. A triangular nanoframe made by the process comprising etching a nanoprism with a salt to form a nanotriangle.
- 15 30. The triangular nanoframe of Claim 29, wherein the nanoprism is a silver nanoprism and the salt is HAuCl_4 .